

WHAT IS CLAIMED IS:

1. A method for in-circuit socket test comprising:
 - connecting a first switching device to each signal pin of a socket and to a single ground pin of the socket, the socket being connected to a motherboard;
 - connecting a second switching device to each signal pin of the socket and to a single power pin of the socket;
 - connecting a first control signal to each first switching device;
 - connecting a second control signal to each second switching device;
 - activating one of the first control signal and the second control signal, the activation of the first control signal causing at least one of the signal pins to be connected to ground through the ground pin, activation of the second control signal causing at least one of the signal pins to be connected to power through the power pin; and
 - monitoring the signal pins during the activating to detect open connections to each signal pin, ground pin and power pin.
2. The method according to claim 1, wherein the first switching device and the second switching device comprise Field-effect Transistors (FETs).
3. The method according to claim 2, further comprising connecting the first control signal and the second control signal to a gate of the FETs.
4. The method according to claim 1, further comprising electrically connecting a board tester to each signal pin, ground pin, and power pin of the

socket, the monitoring being performed by the board tester, the board tester performing the activation of the first control signal and the second control signal.

5. The method according to claim 1, wherein the board tester comprises one of a HP3070 tester and a GENRAD tester.

6. The method according to claim 1, further comprising inserting a module into the socket, the first switching device and the second switching device residing on the module.

7. The method according to claim 1, wherein a separate first control signal is connected to each first switching device.

8. The method according to claim 1, wherein the same first control signal is connected to at least two first switching devices.

9. The method according to claim 1, wherein a separate second control signal is connected to each second switching device.

10. The method according to claim 1, wherein the same second control signal is connected to at least two second switching devices.

11. The method according to claim 1, wherein the socket comprises one of a pinned grid array socket and a ball grid array socket.

12. A system for in-circuit socket testing comprising:

 a module, the module containing at least two switching devices, the module electrically attachable to a socket;

 a printed circuit board, the printed circuit board containing a footprint for insertion of all pins of the socket; and

 a test fixture, the test fixture being electrically connected to all pins of the socket through the printed circuit board, the test fixture supplying power and ground to power pins and ground pins of the socket,

 wherein open connections to pins of the socket are detected by monitoring the pins after at least one of connecting a signal pin to a ground pin through one at least two switching devices and connecting a signal pin to a power pin through another at least two switching devices.

13. The system according to claim 12, wherein the at least two switching devices comprise field-effect transistors (FETs).

14. The system according to claim 12, wherein the socket comprises one of a pinned grid array (PGA) and a ball grid array (BGA).

15. The system according to claim 12, wherein the printed circuit board includes test points, the test fixture being electrically connected to the pins of the socket through the test points on the printed circuit board.

16. The system according to claim 12, wherein the test fixture controls a first control signal and a second control signal, the first control signal controlling the one at least two switching devices to connect a signal pin to a ground pin, the second control signal controlling the another at least two switching devices to connect the signal pin to a power pin.

17. An in-circuit socket test module comprising:

a plurality of module pins, the pins being attachable to a socket, one module pin existing for each pin of the socket, each module pin being electrically isolated from each other on the module; and

at least two switching devices, one at least two switching devices being controllable by a first control signal to connect a signal pin of the socket to a ground pin of the socket, another at least two switching devices being controllable by a second control signal to connect the signal pin to a power pin of the socket,

wherein during an in-circuit socket test, power and ground are applied to the power pins and ground pins of the socket respectively, the pins of the socket being monitored to detect opens after at least one of the one at least two switching devices is controlled by the first control signal to connect a signal pin of the socket to a ground pin of the socket and the another at least two switching devices is controlled by the second control signal to connect the signal pin of the socket to a power pin of the socket.

18. The module according to claim 17, wherein the at least two switching devices comprise field-effect transistors.

19. The module according to claim 18, wherein the first control signal and the second control signal are connected to gates of the field-effect transistors.

20. The module according to claim 1, wherein the socket comprises one of a pinned grid array socket and a ball grid array socket.

100/260-5326350